been performed the gas, having been directed towards a smaller r-value in the last separation step, is led away in the z-direction.

10. (Amended) System according to claim 6, wherein said configuration has a generally cylindrical shape, preferably with the separator elements being arranged essentially symmetrically.

11. (Amended) System according to claim 6, wherein the separator elements have an elongated shape and extend essentially in parallel with the centre axis.

12. (Amended) System according to claim 6, wherein said separator elements are channel-shaped beams having an essentially U-shaped cross-section, wherein the beams are arranged so that the particles impinge upon the bottom of the U and then fall down, guided by the channel-shaped beam, to be collected.

13. (Amended) System according to claim 6, in which said set of separator elements forms a number of ring-shaped arrays being placed within each other.

15. (Amended) System according to claim 12, in which each U-shaped beam is provided with a respective additional U-shaped beam attached in parallel thereto, each of the additional U-shaped beams being provided with a respective further U-shaped beam separator element attached in parallel thereto, forming a unit with three U-shaped beam

channels, dividing plates being inserted in at least two U-shaped beam channels for mechanical segregation of said channels and a section of at least one of the elements in the unit being removed, so as to create three particle separation levels of impinge areas, one for each element in the unit, wherein said directional means are arranged to direct the gas in alternative level directions.

16. (Amended) System according to claim 6, wherein the particle separator is located inside a reactor, preferably at the upper portion thereof, and wherein said centre axis is in parallel with the axis of the reactor, preferably co-axially.

17. (Amended) System according to claim 6, wherein said configuration is circular cylindrical.

Please add the following new claims 18 to 20.

18. (New) Method according to claim 2, wherein in said cylindrical coordinate system $(r,\varphi,z)$ the gas is initially directed from a larger r-value towards a smaller r-value, for the first separation step, and wherein after all separation steps have been performed the gas, having been directed towards a smaller r-value in the last separation step, is led away in the z-direction.

19. (New) System according to claim 7, wherein said configuration has a generally cylindrical shape, preferably with the separator elements being arranged essentially symmetrically.

20. (New) System according to claim 9, wherein said configuration has a generally cylindrical shape, preferably with the separator elements being arranged essentially symmetrically.